

Dengue Fever/Dengue Hemorrhagic Fever: Morbidity, Mortality Seasonal Variations and Spatial Distribution in Sri Lanka, 1996 - 2014

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Background: Dengue Fever and Dengue Hemorrhagic Fever (DF/DHF) are endemic in Sri Lanka. It has been included as a notifiable disease in 1996 and shows a dramatic increase in the incidence of dengue and its severe manifestations making this infectious disease a major public health problem. Climate change is associated with changes in seasonal weather patterns with subsequent impacts on the suitability and temporal and spatial distribution of these infections. The objective of this study was to describe trends of DF/DHF morbidity, mortality, seasonal variations and spatial distribution in Sri Lanka from 1996 to 2014.

Methods: Data were obtained from the published database maintained at the Epidemiology Unit of the Ministry of Health in Sri Lanka. We analyzed incidence patterns of DF/DHF with annual climatic changes for the period of 1996 to 2014. The annual rainfall data for Sri Lanka were obtained from the Department of Meteorology and the populations in administrative districts were obtained from the Department of Census and Statistics, Sri Lanka.

Findings: Total number of DF/DHF in the study period was 290,788. More than 5,000 newly identified DF/DHF were reported annually since 2000. The disease show a seasonal trend, where two peaks of DF/DHF occur following monsoons in April-July and November-February. Almost all districts in Sri Lanka report DF/DHF each year and pose a threat to the health of the people. Five districts namely Colombo, Gampaha, Kalutara, Kurunegala and Kandy have reported more than 60% of the burden and the age group 25 - 49 years shows the highest incidence. Total number of deaths caused by DF/DHF from 1996 to 2014 was 1,641. However, the rate of case fatality rates decreases from 4.2% to 0.2%.

Interpretation: DF/DHF has become a national threat in Sri Lanka. Health authorities and health care institutions should play a critical role to implement an effective DF/DHF control programs emphasizing on removal of mosquito breeding places and environmental management.

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HIV Awareness in the Former Soviet Union: An Assessment of HIV Knowledge among Varied University Disciplines in Armenia

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Background: Globally, 36.7 million people are HIV-positive, the majority of whom are living in low- and middle- income countries, with 2.1 million new cases in 2015 alone (WHO). In Armenia,

3,600 people live with HIV and it's estimated that over 60% of that number are unaware of their status (UNAIDS). Since the emergence of the AIDS epidemic in 1981, progress combatting the spread of HIV has been hindered by lack of education, biased attitudes and unsafe practices. In Armenia, these factors are compounded by lack of public health resources and awareness. The purpose of our study was to gain an understanding of the level of knowledge of HIV in Armenia, and also to quantify specific areas of misunderstanding.

Methods: An IRB approved population-based cross-sectional descriptive study was conducted in Yerevan, Armenia to identify knowledge, attitudes and practices regarding HIV. Quantitative data was collected from a validated questionnaire administered throughout the Yerevan State University campus to individuals between ages 18-68, and 440 completed surveys were collected. Associations among variables were explored using regression-based approaches for continuous variables and non-parametric techniques for categorical variables.

Findings: Completed survey data was collected from students representing numerous disciplines. The mean age of surveyees was 22-years-old (SD = 5.3), with women and men represented by 60.4% and 39.6% respectively. Furthermore, 88.1% were unmarried, 91% resided in an urban area, and 96.2% were able to afford at least clothes and food. When asked, "Can a person get HIV by sharing food or utensils with a person who has HIV/AIDS?" 83.9% of women correctly answered "no" while only 73% of men chose "no" ($p = 0.0047$). Surprisingly, a significant difference was found between level of education and knowledge of routes of transmission of HIV ($p = 0.014$). Among students in higher education, the only demographic scoring above 80% knowledgeable of routes of transmission of HIV was that of medical and dental students, of whom 63.5% were found greater than 80% knowledgeable.

Interpretation: The results of this data provide insight into specific misconceptions regarding HIV in Armenia, especially as pertains to areas of higher education and gender, and provides a basis for better-targeted HIV risk reduction programming and education.

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Association between Risky Sexual Behavior and Cervical Cancer Screening among Women in Kenya: A Population-based Study

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Background: Cervical cancer is one of the most common types of cancer worldwide. Throughout the sub-Saharan African region, the World Health Organization recommends screening and vaccination against Human Papilloma Virus (HPV) to prevent cervical cancer. Sexual behavior has long been recognized as a major risk factor for cervical cancer. However, population-based studies examining the relationship between sexual behavior and cervical cancer